



# Blue Hills State Reservation

## Deer Management Plan

Department of  
Conservation & Recreation

Division of Fisheries & Wildlife

Public Meeting Presentation

September 24, 2015

dcr  
*Massachusetts*





**DCR Commissioner Carol Sanchez**  
*Welcome & Thank you!*

**Thank you to our Partners!**



**Department of Fish & Game**



**Division of Fisheries & Wildlife**

**Massachusetts Environmental Police**



**Massachusetts State Police**

**Friends of the Blue Hills**





## DCR Commissioner Carol Sanchez *Welcome & Thank you!*

- Thank you for attending today's meeting and for your interest in the Blue Hills Reservation!
- The Blue Hills Reservation is one of the crown jewels in DCR's portfolio of statewide properties.
- The Reservation is one of the first properties to be acquired by the Commonwealth for public recreation.
- It is a special place and we want to make sure future generations can enjoy and appreciate its resources.





## DCR Commissioner Carol Sanchez

### *Welcome & Thank you!*

- As stewards of the Blue Hills Reservation, DCR is concerned with the long-term health of the forest
- DCR's 2011 Resource Management Plan (RMP) for the Blue Hills notes deer overpopulation as a significant problem and recommends planning for deer management
- The 2014 Environmental Bond Bill (Ch. 286, §43, Acts of 2014)
  - Directs DCR to work with DFW to identify areas where deer overpopulation is negatively impacting forestation, water resources, plant growth
  - Directs DFW and DCR to develop and implement harvest management plans for identified areas



## DCR Commissioner Carol Sanchez

### *Welcome & Thank you!*

- Based on our RMP and the Environmental Bond Bill DCR has worked with DFW and other state and local partners to develop a deer management plan, which we are happy to share with you tonight
- Also, DCR would like to thank our partners in the Legislature for their guidance and support in the development of this management plan.



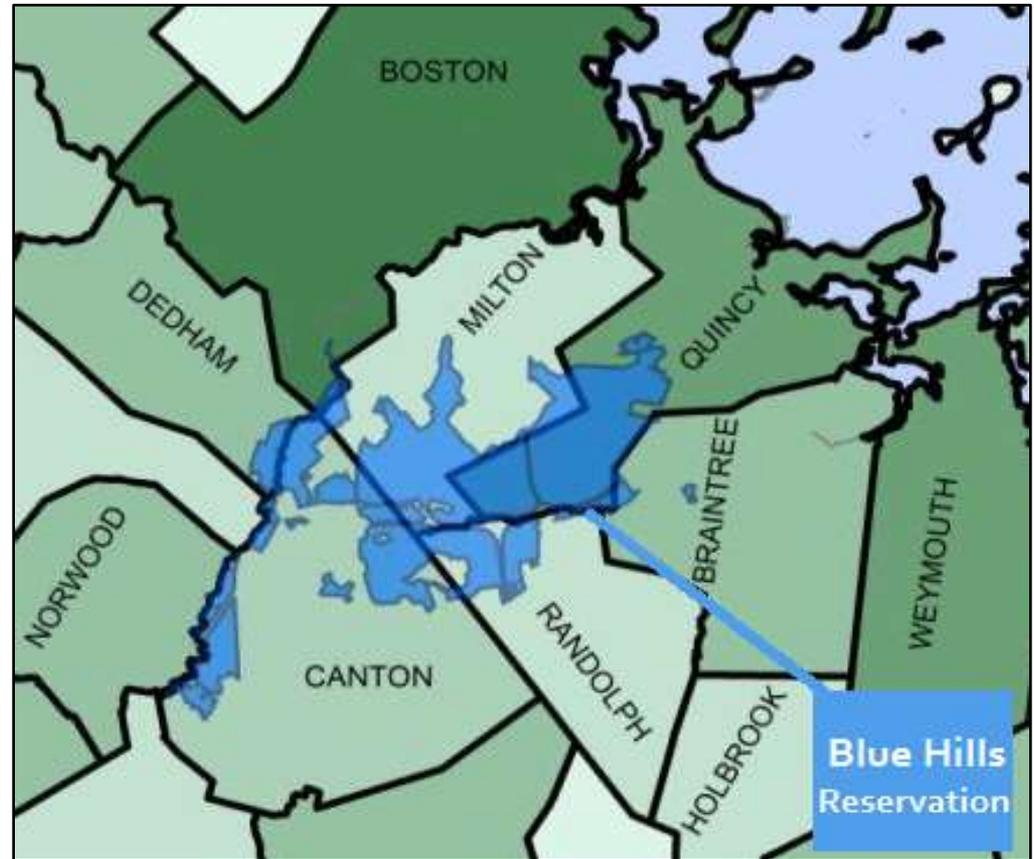
# Presentation Overview

- Nature & Causes of Deer Overabundance Problem
- Key Developments and Planning Efforts
- Deer Population Survey Overview & Findings
- Deer Management Options
- Preferred/Recommended Management Option
- DCR Quabbin Controlled Hunt Experience
- Proposed Blue Hills Deer Management Plan and Program Components
- Questions & Comments



# Blue Hills Reservation

- Over 7,000 acres
- Located in Milton, Canton, Quincy, Randolph, Dedham, Braintree, & Boston
- Acquired: 1893 by Metropolitan Park Commission
- Estimated 650K people and 250K households within 4-mile radius



## Nature of the Problem

- White-tailed deer overabundance
- Leading to:
  - *Vegetation over-browse*
  - *Lack of forest regeneration*
  - *Tick Abundance*
  - *High rates of Lyme Disease, etc.*
  - *Property/landscaping damage*
  - *Vehicle collisions*



## Nature of the Problem

- Impacts to vegetation and species diversity



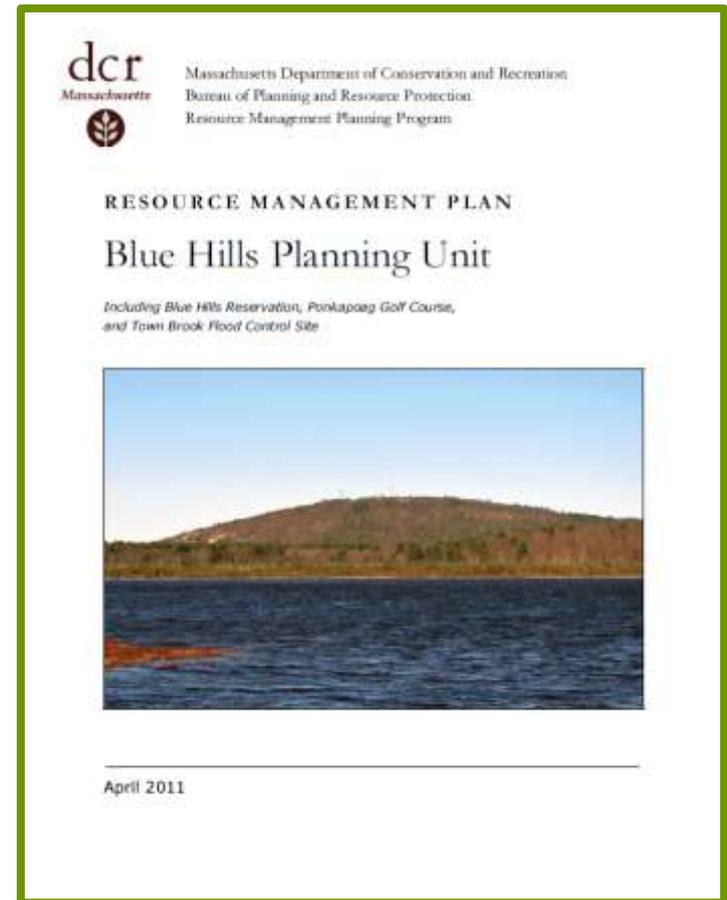
## Causes of Deer Overabundance

- Excellent deer habitat
- Extirpation of major historic predators; such as mountain lions and wolves
- No hunting allowed in Blue Hills
  - *Created Sanctuary Habitat favorable to deer population increases*



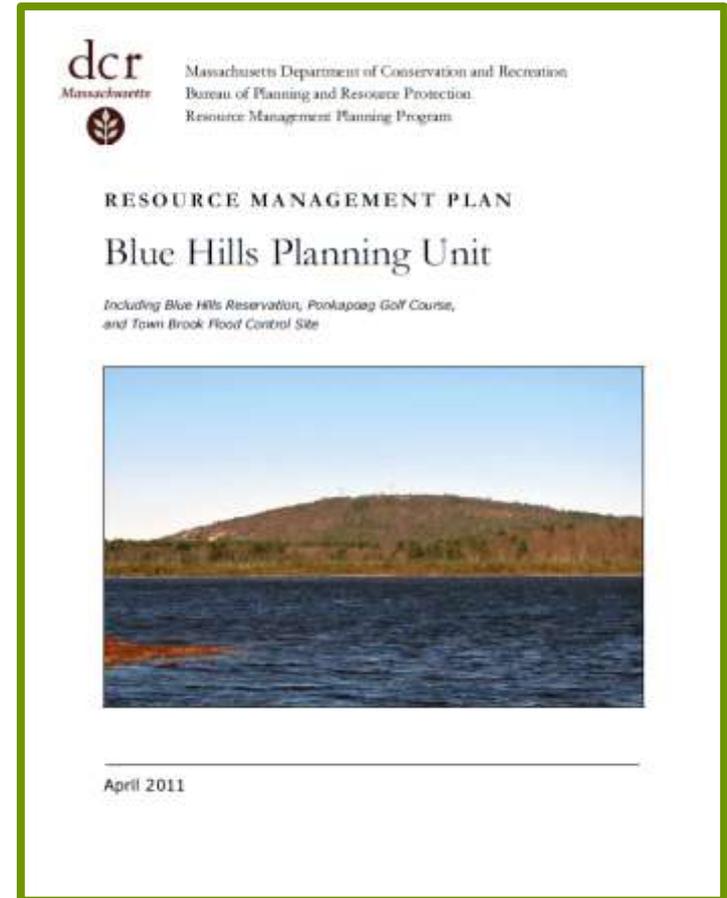
# Key Developments & Planning Efforts

- **April 2011**: DCR develops and Stewardship Council approves Resource Management Plan (RMP)
  - RMP Notes: “over-browsing [by deer] has the potential to significantly decrease species diversity and suppress canopy cover for decades”
  - RMP Notes: “over-browsing by deer also affects some of the reservation’s rare plants”



# Key Developments & Planning Efforts

- **April 2011**: DCR develops and Stewardship Council approves Resource Management Plan (RMP)
  - RMP Recommends: “Work with MassWildlife to conduct study of deer populations within the Blue Hills and to ascertain the extent of their impacts on the reservation’s natural resources”
  - RMP Recommends: “If warranted, discuss deer management options”



## Key Developments & Planning Efforts

- **Fall 2011**: Nearby private property owners establish voluntary Neighborhood Deer Culling Program and ask DCR to consider deer hunting in the Blue Hills
- **May 2013**: DFW and DCR conduct deer density survey
- **June 2014**: DFW and DCR present deer density survey findings and problems associated with deer overabundance at Friends of Blue Hills public meeting



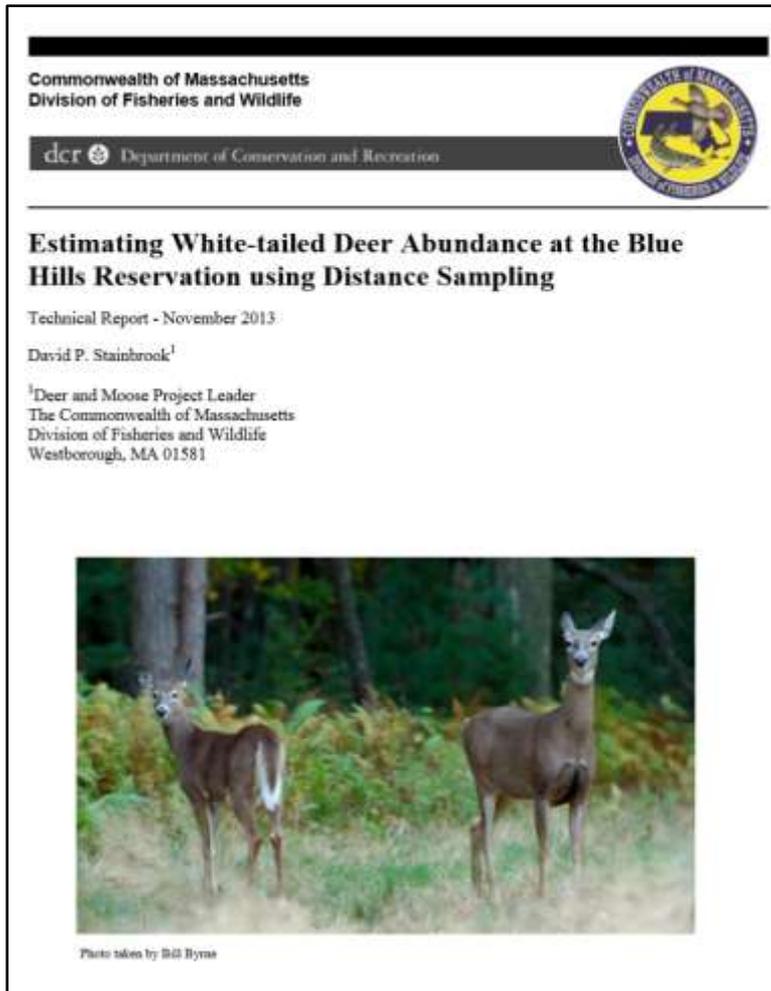
## Key Developments & Planning Efforts

- **Summer 2014 – Winter 2015**: Release of deer population survey findings results in considerable public attention on the need to implement deer management solution
  - Several news articles and editorials point to the problem and mention DCR-DFW deer management planning efforts:
    - June 21, 2014 (Patriot Ledger): *State considers plan to thin deer herd in Milton's Blue Hills*
    - July 27, 2014 (Boston Globe): *State considering measure to cull Blue Hills Deer Population*
    - January 18, 2015 (Boston Globe): *Deer hunting in the Blue Hills?*
    - January 26, 2015 (Boston Globe): *Deer Prudence: allow small hunt in Blue Hills*

## Key Developments & Planning Efforts

- **August 2014**: Environmental Bond Bill (Ch. 286, §43, Acts of 2014)
- **September 2014**: DFW presents deer population survey findings at DCR Stewardship Council public meeting
- **Fall 2014 – Winter 2015**: DCR and DFW begin to explore deer management options and develop a draft management plan
- **May 2015**: DCR and DFW meet with state and local law enforcement officials to discuss management options and intent to initiate a controlled hunt
- **June – August 2015**: DCR, DFW, MEP, MSP working group develops more detailed controlled hunt plan
- **September 2015**: DCR, DFW, MEP, MSP meet with local law enforcement officials, legislators, and city/town officials to review controlled hunt plan and solicit feedback

# Deer Population Survey



**John O'Leary**

Assistant Director

Division of Fisheries & Wildlife

**David Stainbrook**

Deer & Moose Project Leader

Division of Fisheries & Wildlife

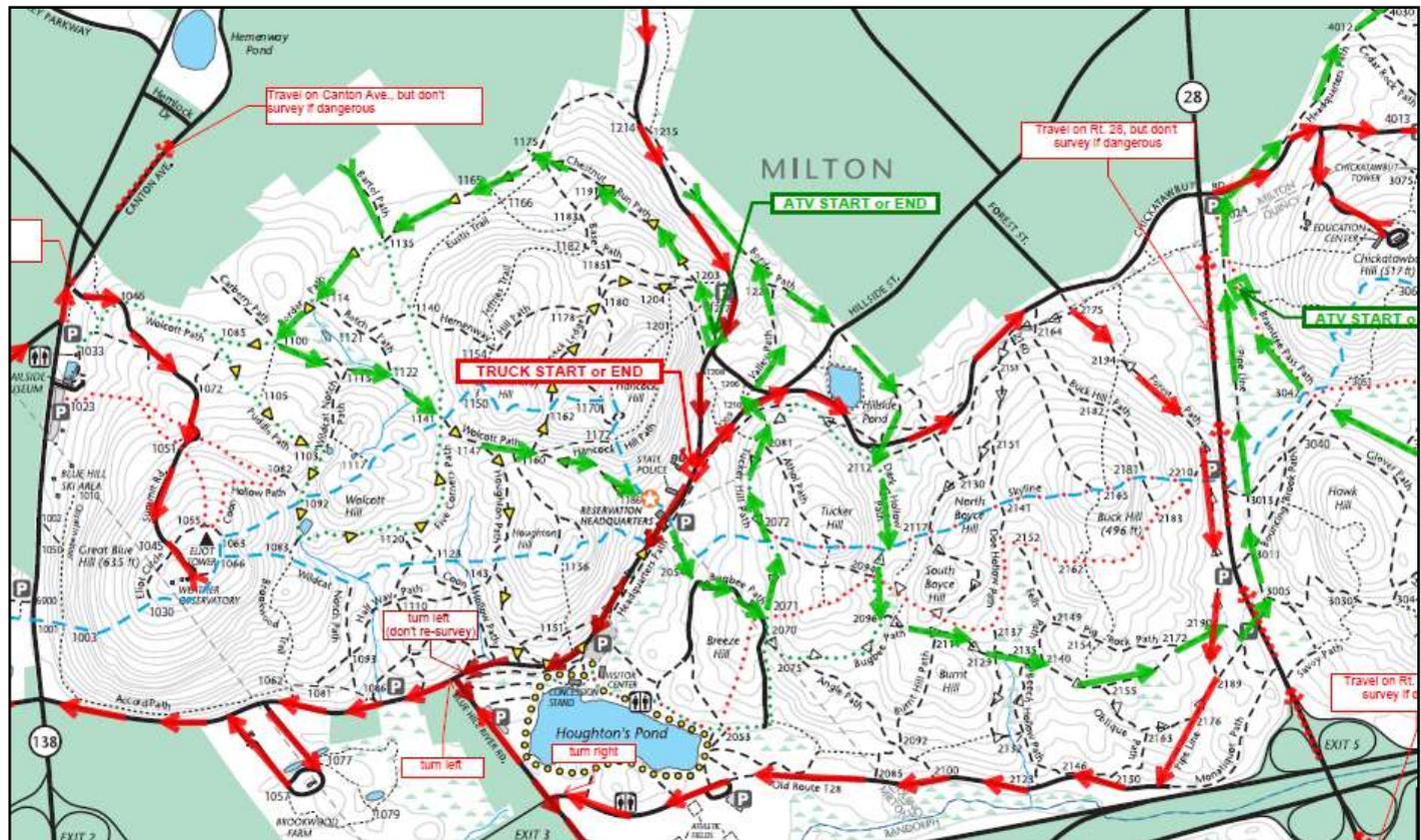
## Deer Population Survey - Overview

- Goal: Estimate deer density per square mile
- Conducted in early May 2013
- Distance Sampling Method used to estimate density
- Two crews of DCR and DFW staff gathered data over the course of 3 nights for 4-6 hours per night.
- Note: First-ever survey by DFW to estimate deer density in an un-hunted area of eastern MA.



# Deer Population Survey - Overview

- 14 survey routes (transects) – using paved roads and dirt trails



## 2013 Deer Population Survey – Findings

- Estimated more than 85 deer/mi<sup>2</sup> of forest  
*(conservative estimate, actual density is likely much higher)*
- Approximately 600-800 deer across more than 7.5 mi<sup>2</sup> of deer habitat
- Density estimate exceeds DFW's statewide density goals ranging from 6-18 deer/mi<sup>2</sup>
- Also exceeds threshold density of 18-20 deer/mi<sup>2</sup> where negative impacts become evident in northeastern forests



# Deer Management in Massachusetts

- DFW can only effectively manage deer on or near lands that are open to hunting.



# Deer Management Options

## *Non-Lethal Methods*

- No Action
  - *Deer population will continue to grow*
  - *Increased impacts to forest, public safety, public health and property/landscaping damage*
- Fencing & Repellents
  - *Does not really address deer abundance*
  - *Exclusion fencing is expensive*
  - *Repellents only work short-term (at best)*



# Deer Management Options

## *Non-Lethal Methods*

- Sterilization/Contraception *(not legal in MA)*
  - *Very expensive and requires intensive, long-term operation*
  - *Can reduce population growth, but not shown to significantly decrease deer density in reasonable timeframe*
- Trap and Transfer *(not legal in MA)*
  - *Complex and expensive operation*
  - *No realistic release sites in need of more deer*
  - *Translocation process is stressful and can lead to disease spread*



# Deer Management Options

## *Lethal Methods*

- **Hired Culling** (*permitted only at airports for public safety*)
  - *Expensive; especially at a large scale*
  - *Denies citizens access to a renewable public resource*
  - *Contradicts North American Model of Wildlife Conservation*
- **Trap and Euthanize**
  - *Complex and expensive operation*
  - *Denies citizens access to a renewable public resource*
  - *Contradicts North American Model of Wildlife Conservation*



# Deer Management Options

## *Lethal Methods*

- Regulated Hunting
  - *Effectively used statewide to manage deer at desired levels*
  - *Cost-effective*
  - *Provides citizens access to a public resource*
  - *Access to land open to hunting is necessary to ensure deer management efforts are successful*



# Deer Management Options

## *Lethal Methods*

- Regulated Hunting
- Deer Hunting Season in MA
  - Begins mid-October and ends December 31<sup>st</sup>
    - Archery Season: begins mid-October
    - Shotgun Season: begins Monday after Thanksgiving and lasts only 2 weeks
    - Primitive Firearms (“muzzleloaders”): begins around mid-December through December 31<sup>st</sup>



# Preferred / Recommended Option

## *Regulated Hunting*

- In the form of a **Controlled Hunt**
  - Additional restrictions applied beyond current state regulations, such as:
    - *Limitation on the number of hunters allowed to prevent overcrowding*
    - *Establishing an application/access permit process*
    - *Restrict type(s) of hunting implements allowed*
    - *Limit season length*
  - Important to balance the need for restrictions with the need to ensure adequate access for success



# Preferred / Recommended Option

## *Regulated Hunting*

- Controlled Hunt would not be unprecedented for DCR



Quabbin Reservoir Annual Controlled Hunt

# The Quabbin Experience:

*White Tailed Deer Population Reduction and the Ecological Response*



**Dan Clark**

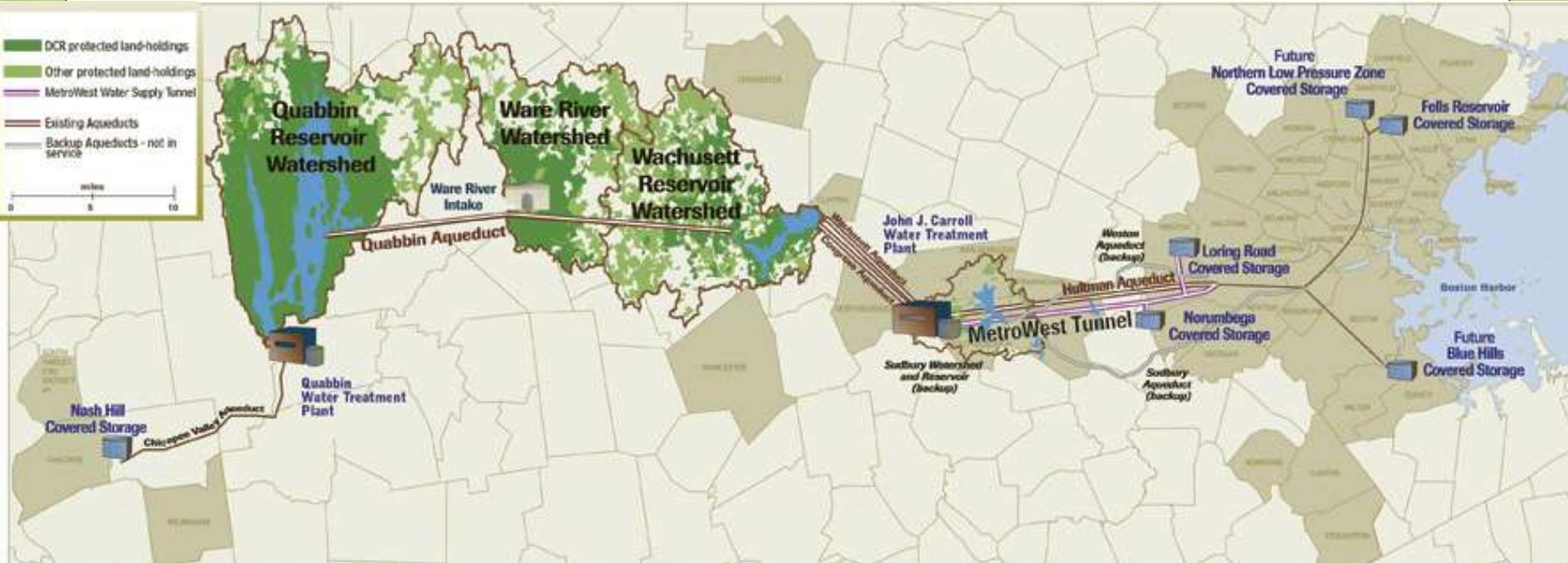
Natural Resources Section

Division of Water Supply Protection

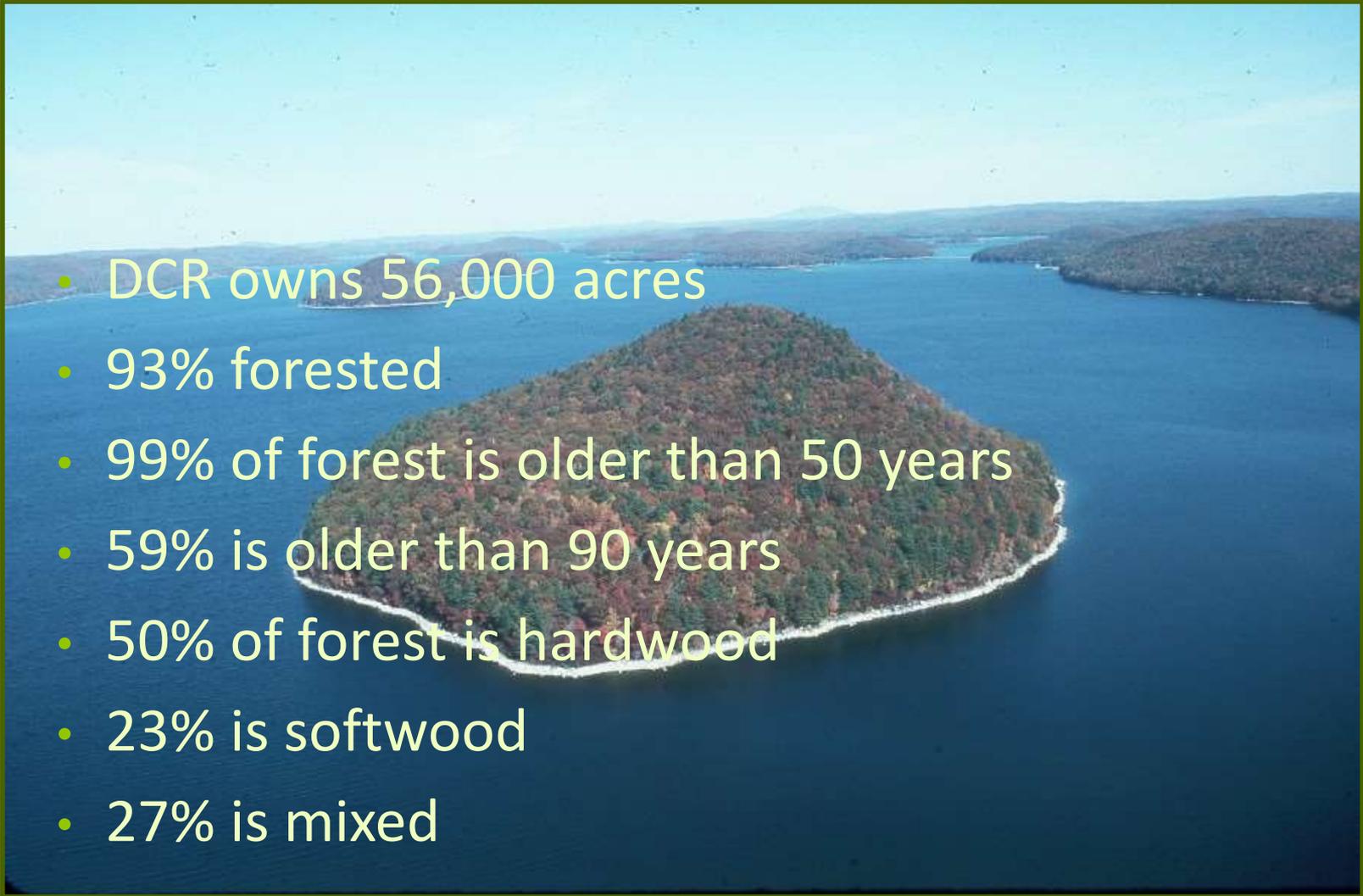
DCR

# Quabbin Reservation

- Created in the 1930's
- Water flows from Quabbin into Wachusett reservoir then on to Boston
- Quabbin holds 412 billion gallons
- Treated, but unfiltered water



# Quabbin Reservation

- 
- An aerial photograph of a large, forested island in the middle of a vast, blue lake. The island is covered in dense trees with some autumn-colored foliage. The lake extends to the horizon under a clear blue sky. The text is overlaid on the left side of the image.
- DCR owns 56,000 acres
  - 93% forested
  - 99% of forest is older than 50 years
  - 59% is older than 90 years
  - 50% of forest is hardwood
  - 23% is softwood
  - 27% is mixed

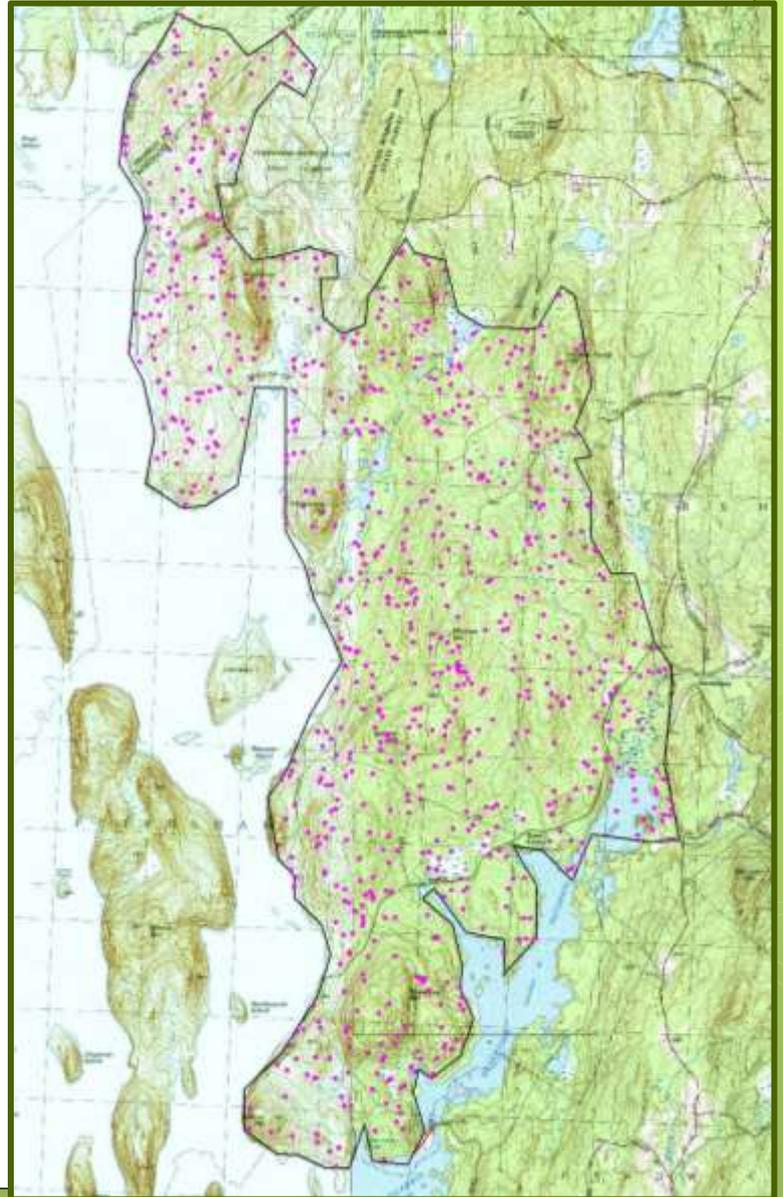
## Deer at Quabbin

- Closed to hunting from 1930's until early 1990's
- Signs of over browsing first seen in 1946
- Deer densities estimated from 1983-1992
- Deer densities ranged from 45-60 deer/mi<sup>2</sup>



**Petersham: 60 deer/mi<sup>2</sup>**

**804 deer**



## Forest Conditions with Lots of Deer



# Forest Conditions with Lots of Deer

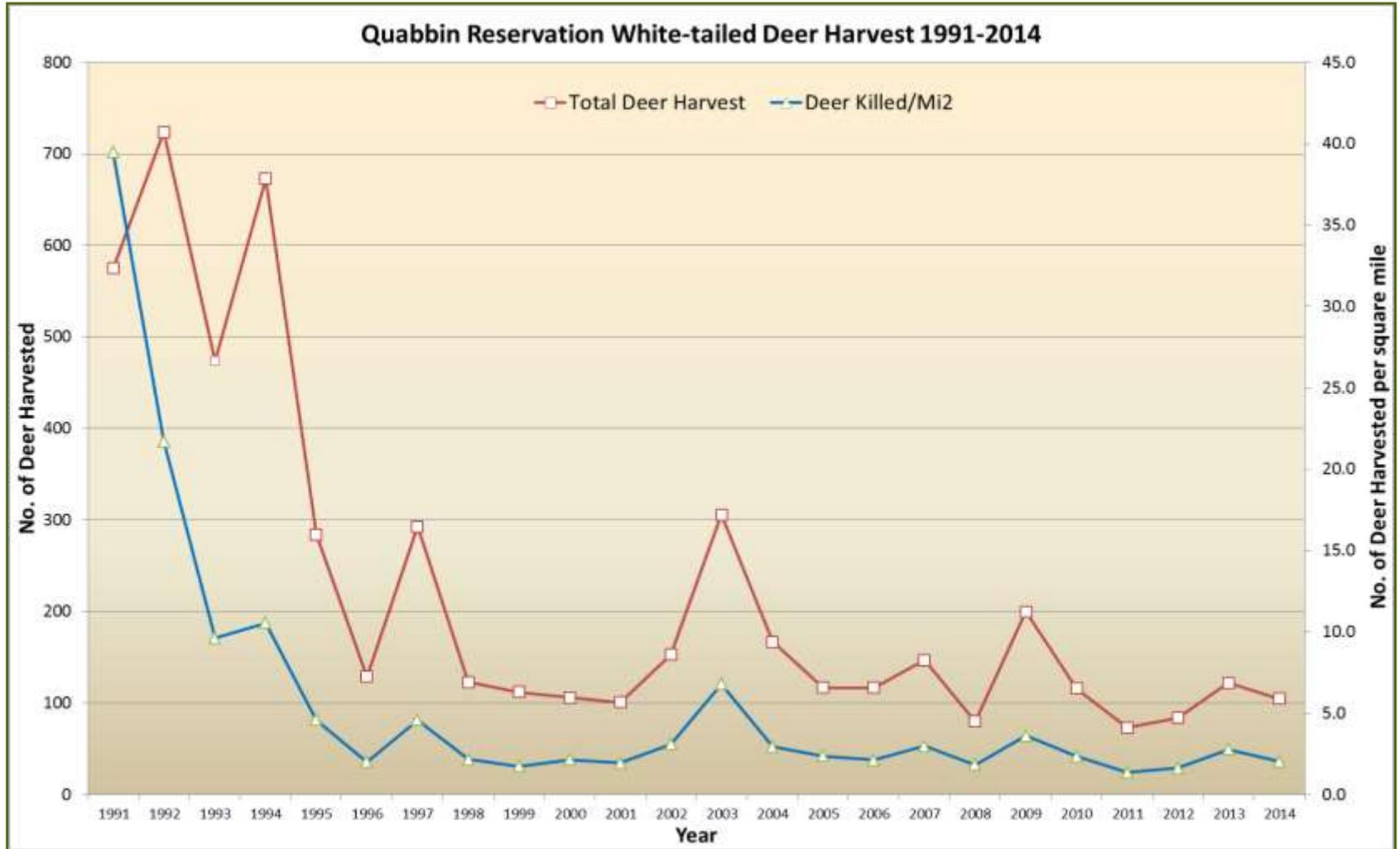


## Forest Conditions with Lots of Deer

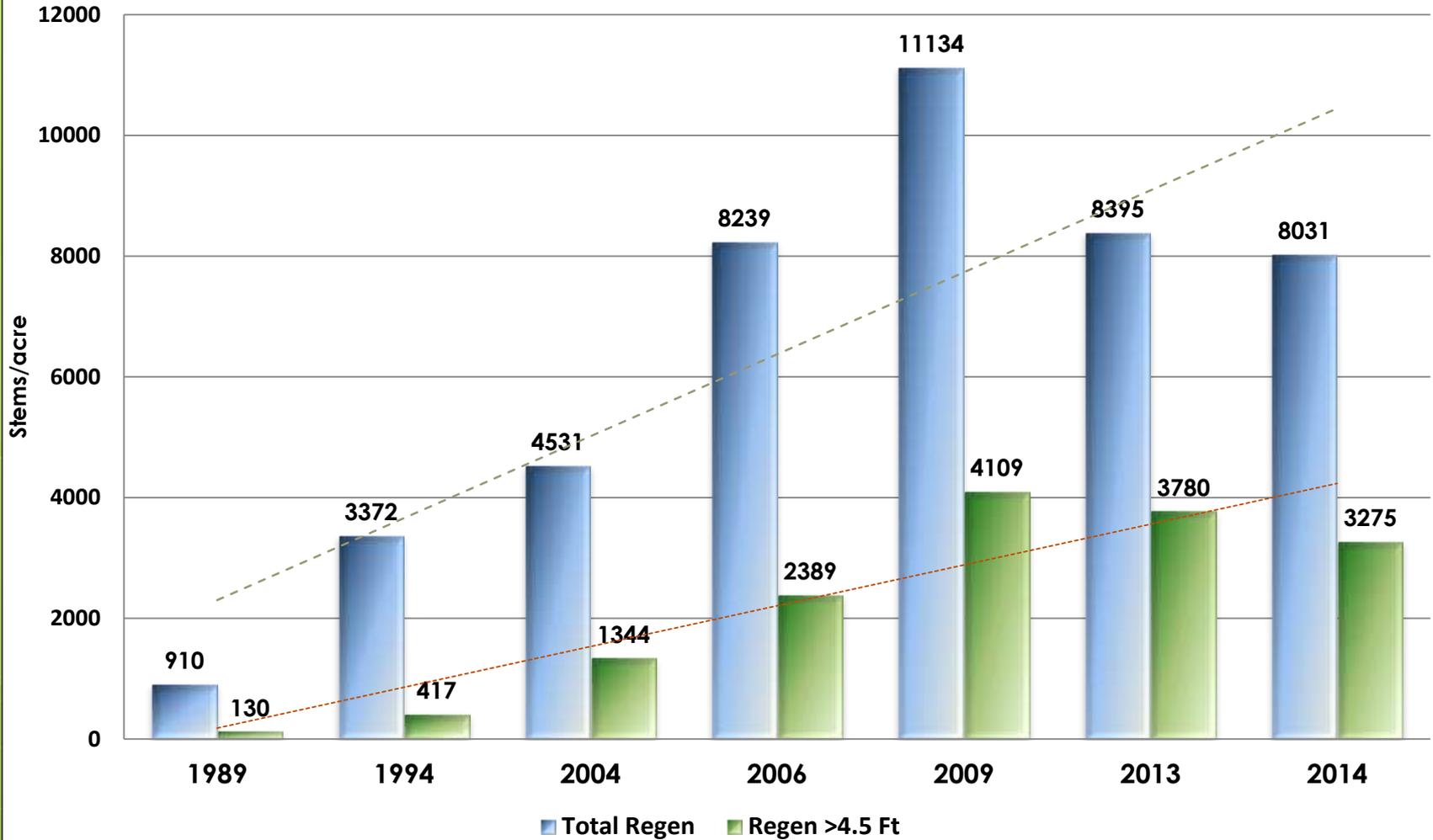


## Forest Conditions with Lots of Deer

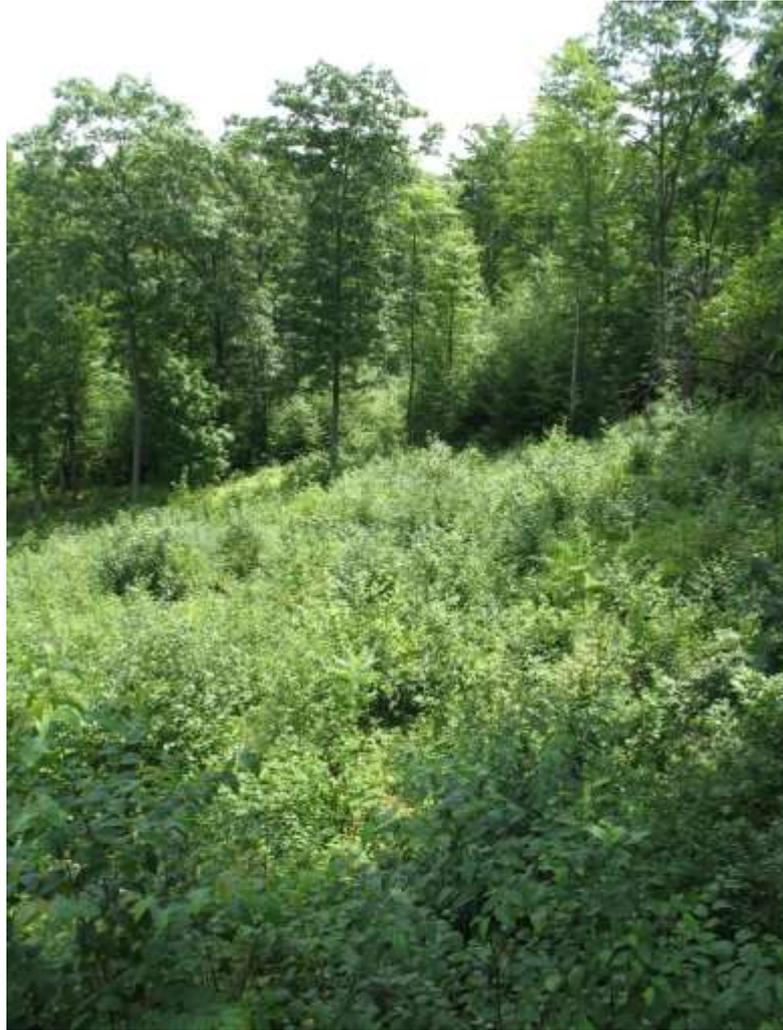




### Mean Stem/Acre at Quabbin from 1989 - 2014



# Current Forest Conditions



# Current Forest Conditions



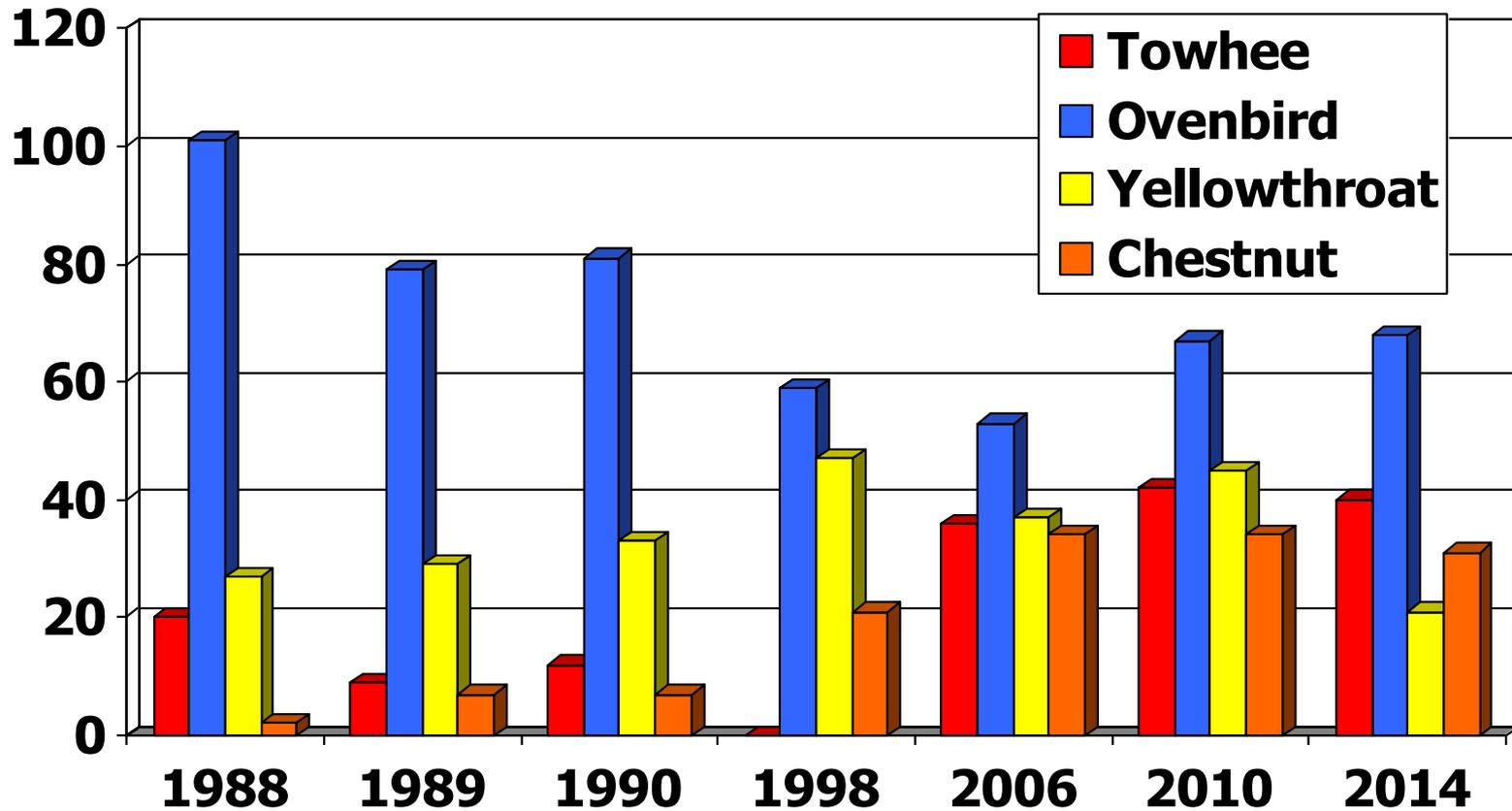
# Current Forest Conditions



# Current Forest Conditions



# Roadside Breeding Bird Data



## Return of Herbaceous Plants

- **Brambles:**  
blackberry and raspberry
- **Sumac**
- **Flowers: lady slipper**
  - Trout lily
  - Trillium
  - Cardinal flower
- **Poison ivy**



## Ecological Diversity

- Grape vines
- Milkweeds
- Joe pye weed
- Asters
- Marsh marigold
- Alder
- Ruffed grouse & rabbits



## Conclusions

- Deer densities at Quabbin substantially reduced and maintained at much lower levels
- Excellent response from the forest
  - *Able to regenerate trees*
  - *Diversity is still lacking but moving in right direction*
- Increased ecosystem diversity
  - *Herbaceous plants*
  - *Wildflowers*
  - *Bird communities*
  - *Small mammals*
- Recovery is relatively slow and ongoing

# Proposed Blue Hills Controlled Hunt

## Blue Hills State Reservation *Deer Management Plan*



A Joint Publication of the  
Massachusetts Department of Conservation & Recreation and  
the Massachusetts Division of Fisheries & Wildlife  
♦ ♦ ♦ ♦ ♦  
Executive Office of Energy & Environmental Affairs  
Commonwealth of Massachusetts

## Draft Deer Management Plan

- Posted to DCR website on September 15<sup>th</sup>
- Accepting written comments through October 2<sup>nd</sup>

# Proposed Blue Hills Controlled Hunt

## *Key Decision-Making Considerations & Priorities*

- Public Safety
- Resources
- Effectiveness in reducing deer herd
- Timing
  - *Duration of time in which hunting would be allowed*

*With public safety as a key priority, DCR will take a **Phased Implementation** approach*



# Proposed Blue Hills Controlled Hunt

## *Program Components – Year 1*

- **Participation & Access Permitting**
  - *Follow system similar to Quabbin hunt*
  - *Hunters will need to apply to participate*
  - *Hunters must have valid FID card and hunting license*
  - *Participants will be chosen from the applicant pool using random lottery system*



# Proposed Blue Hills Controlled Hunt

## *Program Components – Year 1*

- **Timing & Length**
  - *During annual shotgun season (two weeks starting the Monday after Thanksgiving)*
  - *4 total days of hunting – broken into two 2-day segments*
  - *Monday & Tuesday of each week*
- **Hunting Implements**
  - *Shotgun with slug only (no buckshot)*
  - *NOTE: Archery in designated areas proposed in future years*



# Proposed Blue Hills Controlled Hunt *Program Components – Year 1*

- **Participation**

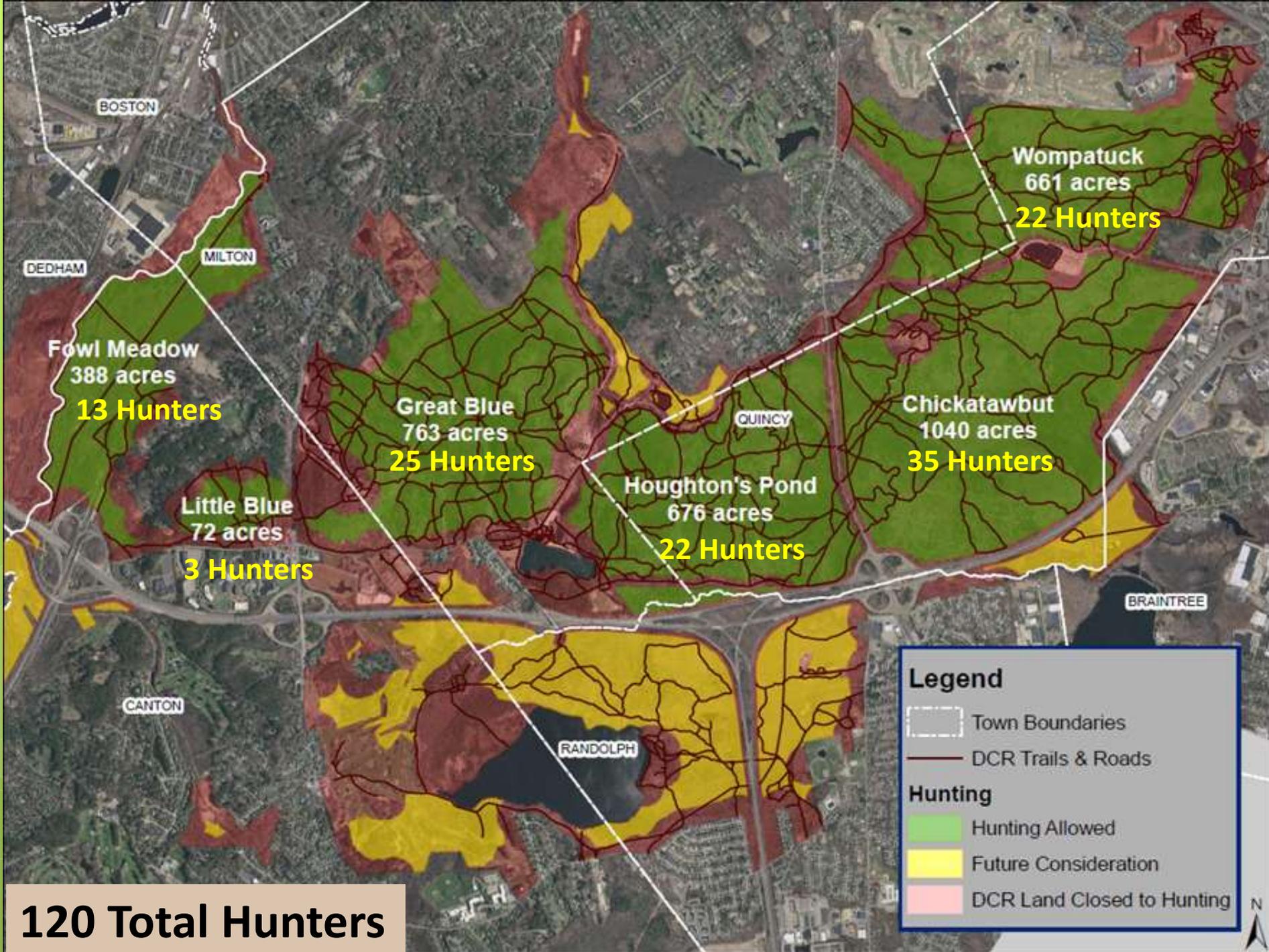
- *240 total permits*
- *120 permits for Segment 1 Hunters*
- *120 permits for Segment 2 Hunters*
- *No more than 120 hunters in Reservation at any time*



# Proposed Blue Hills Controlled Hunt Program Components – Year 1

- **Hunter Distribution & Management Zones**
  - *To avoid over-crowding in one area of the Reservation, management zones will be established*
  - *Hunter distribution to be based on 1 hunter/30 acres*
  - *Permittees will be assigned to a management zone*
  - *Permittees must stay within their management zone while hunting*





**120 Total Hunters**

**Legend**

- Town Boundaries
- DCR Trails & Roads
- Hunting**
  - Hunting Allowed
  - Future Consideration
  - DCR Land Closed to Hunting



# Proposed Blue Hills Controlled Hunt

## *Program Components*

- **Hunter Orientation**
  - *Similar to Quabbin hunt*
  - *All permittees will be required to attend in order to participate in the hunt*
- **Antlerless Permits**
  - *Participants will be required to purchase at least 2 antlerless permits*



# Proposed Blue Hills Controlled Hunt

## *Program Components*

- **Check-in / Check-out Procedures**
  - *Central Location – Houghton’s Pond Parking Lot*
  - *Check-in between 5:00 – 7:00 AM*
  - *Check-out by 4:00 PM*
  - *Check-out will be required. Hunters will have to turn in permit stubs when checking out.*



# Proposed Blue Hills Controlled Hunt

## *Overarching Program Components*

- **Deer Cleaning & Check Station**
  - *Hunters required to move harvested deer 100 feet away from a trail for gutting/cleaning deer*
  - *Hunters responsible for transporting harvested deer to their vehicle*
  - *Central Deer Check Station at Houghton's Pond lot*
  - *All harvested deer must be checked*



# Proposed Blue Hills Controlled Hunt

## *Program Components*

- **Roadway Restrictions & Vehicular Access**
  - *Closure of Chickatawbut Road and Wompatuck Road. DCR will re-open Chickatawbut Road each day by 5:00 PM*
  - *After checking in, permittees will be allowed access to Chickatawbut Road and Wompatuck Road for parking*
  - *No Parking along I-93*
  - *Potential need for traffic calming on I-93 and Rt. 28*
  - *Vehicular access prohibited on trails*
  - *DCR will post VM Boards in advance and during road closures*



# Proposed Blue Hills Controlled Hunt

## *Program Components*

- **Available Parking Areas**
  - *Houghton's Pond parking lot*
  - *Site 5/Ballfields parking lots*
  - *Pull-off parking areas along Route 28*
  - *Park & Ride lot on Route 138*
  - *Paul's Bridge parking area (Fowl Meadow)*
  - *End of Royal Street (abutting Fowl Meadow)*
  - *North parking lot at Trailside Museum*
  - *Hancock Hill off of Unquity Road*
  - *Hillside Street lot across from MSP barracks*
  - *Corner or Chickatawbut Road and Route 28*



# Proposed Blue Hills Controlled Hunt

## *Program Components*

- **Violations**

- *Violation of program rules to result in immediate removal from the property and suspension of access to the program in future years*
- *Any person found hunting without a valid permit will be immediately removed and prohibited from applying to participate in the hunt in future years*

- **Public Access Restrictions**

- *DCR will restrict public access on days when and in areas where hunting is taking place*



# Proposed Blue Hills Controlled Hunt

## *Program Components*

- **Public Information, Outreach, & Signage**
  - *DCR will work with state and local partners and Friends of Blue Hills to inform neighbors/public of hunt logistics*
  - *Press releases, websites, social media*
  - *VM Boards at park entrances and key intersections*
  - *Public information session*
  - *Signage at trailheads*
  - *Notices will include contact information to report issues / ask questions*



# Proposed Blue Hills Controlled Hunt *Program Components*

- **Unified Safety & Operations Command Structure**

dcr  
*Massachusetts*



# Proposed Blue Hills Controlled Hunt

## *Proposed Phased Implementation Plan*

- **Incremental Year-to-Year Enhancements might affect one or more program components, such as:**
  - *Number of hunting days*
  - *Allowable hunting areas*
  - *Allowable hunting implements*
  - *Hunter participation and distribution*
- **Decisions Regarding Year-to-Year Enhancements to be Based on:**
  - *Prior year experience*
  - *Resources*
  - *Prior year assessments*



# Additional Information

**For more information:**

<http://www.mass.gov/eea/agencies/dcr/public-outreach/public-meetings/>

**If you have comments:**

*Submit Online:* <http://www.mass.gov/eea/agencies/dcr/public-outreach/submit-public-comments/>

*Write:* Department of Conservation and Recreation  
Office of Public Outreach  
251 Causeway Street, Suite 600  
Boston, MA 02114

*Deadline:* Friday, October 2, 2015

*Note:* Public comments submitted to DCR may be posted on the DCR website in their entirety.

**If you have other questions or concerns, or wish to subscribe to a DCR general information or project-specific listserv:** contact DCR's Office of Community Relations at 617-626-4973 or [Mass.Parks@state.ma.us](mailto:Mass.Parks@state.ma.us).



# Blue Hills State Reservation

## Deer Management Plan

Department of  
Conservation & Recreation

Division of Fisheries & Wildlife

Public Meeting Presentation

September 24, 2015

## Questions & Comments